The Relation of Physical Science to Palton ophy.

Since the appearance of Dr. Draper's " Re-Belon and Seigner," no book has been published In this country entertained to make so deep an Impression on thoughtful and chicated readers as the volume contributed to the International Secont de Series under the title of The Concepts and Theories of Madera Physics, by J. B. STADLO the policious in The author here here undertaken a broad and coroful examination of the relation of the physical acloses to the general progress of human knowledge. The outcome of Judge Binile's book is to refute the materialistic philosop as which assumes to be reared by legittreate induction on the facts and principles established in the several departments of physical science, by showing that these fundamental concepts and theories currently supposed to be accepted by those engaged in physical research are themselves open to grave doubt, and cannot for the present be regarded as more than tentative hypotheses which are far from affording a solid ground work for philosophy. The object and the method of this trentise, however, are in no sense polemie, but strictly scientific, and the reader lays it down with a conviction that the author has sincerely bried to accredit the effort of scientifle inquiry and philosophical thought to gain a foothold upon firm empyrical ground where the real data of experience may be presented, classified, and interpreted without the insidious intrusion of the old metaphysical ideas under the form of an aggressive skepticism, or of an sustere agnosticism. Meritorious as the purpose is, the execution is no less worthy of respect and admiration, for the range and minuteness of the author's learning, the acuteness of his reasoning, and the singular preelsion and clearness of his style are qualities which very seldom have been jointly exhibited in a scientific treatise. Were this book associated with one of the most illustrious names in the field of modern discovery and thought, it would reflect credit on the writer; but our pospect for the achievement is mingled with something like astonishment when we bear in mind that it was performed in the intervals of

It is not, we repeat, Judge Stallo's aim to suggest a new theory of the universe, or a novel system of philosophy. He has not tried to solve all or any of the problems of cognition, but simply to show that some of them are in peed of being stated anew if they are ever to and solution. He does not put forth any original hypothesis to account for physical phenomena, but he has endeavored to demonstrate that many of the current theoretical interpretations of scientific facts, such as the atomic theory, the nebular hypothesis, and the theory of evolution, are, to say the least, not proven But although the labors whose results are here exhibited are not constructive, they are not the less useful if they succeed in clearing the ground of many hasty and ill sustained assumptions, and leaving it free and open for more cautious, patient, and sound inductions. If it be true that a kind of anarchy does at present provail in the discussion of ultimate scientific questions, the fact should be distinctly and universally understood, and the proper attitude of scientific inquiry toward its objects should be determined with the greatest possible accuracy and promptitude. Such a determination is indeed a prerequisite of real intellectual progress at all times, and, so far as Judge Stalle's book shall further it, it will constitute a decided advance in the direction of legitimate cognitive aspirations. Rightly to propose a problem and accurately to point out the flaws in current attempts to solve it is no Inconsiderable step toward its final and correct

In his earlier chapters Judge Stallo discusses the atomo-mechanical theory, which is commonly accepted as the basis of modern physics and modern chemistry. This well-known hy-pothesis explains the phenomena of the universe by reducing them to the elements of mass and motion, and exhibiting their diversities and changes as mere differences and variations in the distribution and aggregation of ultimate and invariable particles in space. With few exceptions, scientific men of the present day hold the proposition that all physical action is mechanical to be axiconcede, indeed, that there is a class of phenomena-those of organic life-which, under their characteristic aspect, are irreducible by the exclusive application of mechanical principles: but they nevertheless insist that these principles constitute the only intellectual solvent that can be applied to such phenomena. and that the residue which resists solution is to be relegated to the category of facts which are proof against all the reagents of scientific cognition. It is Judge Stallo's purpose to inquire whether or not the validity of the mechanical theory of the universe in its present form is really absolute and impreguable, and to this end he examines in the earlier chapters of this book the propositions which lie at the base of the whole hypothesis. These are, first that the elementary units of mass, being simple. are in all respects equal; that, secondly, they are absolutely hard and inelastic; thirdly, that they are absolutely inert, and therefore purely passive; and, fourthly, that all potential energy, so-called, is in reality kinetic. This last principle, of course, denies that motion can originate in, or be converted into, anything but motion, and involves the assumption of the conservation of energy. These propositions are taken up in order, and tested with a view to ascertaining how far they are consistent with and serve as the all-sufficing explanation of the facts of scientific experience.

We cannot, of course, follow Judge Stallo in his exhaustive examination of the assumptions which underlie the atomo-mechanical theory of the universe, but we may briefly indieate the results to which the inquiry leads him. In view of the tests to which it is here submitted, the atomic theory appears to be not only, as is generally conceded, inadequate to account for the phenomena of organic life, but almost equally incompetent to serve as an explanation of the most ordinary cases of inorganic physical action. The claim, moreover, that this hypothesis, in contradistinction to the metaphysical theories it has superseded, resorts to no assumptions, and operates with no elements save the data of sensible experience, seems to be inadmissible. In submitting this conclusion, however, Judge Stallo is careful to guard against two misconceptions. He points out that the negation of the theory of the atomic constitution of matter, as it is generally held by physicists and chemists, involves no affirmative statement respecting the real constitution of bodies-of chemical elements or compounds-and certainly does not imply the assertion of the metaphysical theory of the absolute continuity of matter. What the actual constitution of particular bodies remains a question to be determined in each case by experiment and observation. The writer does not deny that there is a large class of bodies whose constitution is molecular, but his contention is that we cannot on that account assume that the molecules comprising such bodies are primordial, unchangeable units, existing independently and in advance of all physical action, and therefore absolutely exempt from change. It is in-isted that on empyrical grounds, the inference from the molecular structure of a body of the permanent existence of absolutely indestructible atoms is as irrational as would be the | gan to rotate on an axis of its own, the direct assertion that primordially, and in advance ture. There is a second deduction, which the reader may be disposed to make, but which he author's criticism of the postulates laid down through action is mechanical, in the sense of being a | be recapitulated. Among them are the existy. a forence of motion between distinct masses | tence in the stellar regions of nebulous masses children or impact, is not to be construed as | in various stages of condensation—the evi-

a doubt respecting the constancy of physical laws or the universality of their application. What Judge Stallo denies is, not the general dominance of the law of physical causation, but the distrine that the only form of such causation is the transference of motion by the impact of masses which in themselves are abso-Intely inert.

It may be objected that physical action is utterly indeterminable except on the assumption of the atomic or molecular constitution of matice. But, according to the author of this treatise, this is true only in the sense that we are unable to deal in thought with forms of physical action otherwise than by considering them as modes of interaction between distinct physical terms, Physical getion cannot be subjected to quantitotive determination without a logical insulation of the conceptual elements of matter, and without ultimate reference to conceptual constants of mass and energy. This is only tantamount to reminding us that the human mind is the instrument by which physical as well as metaphysical principles are reached-that the steps to scientific as well as other knowledge consist in a series of logical fictions, which are as legitimate as they are indispensable in the operations of thought, but whose relations to the phenomena whereof they are the partial and not unfrequently merely symbolical representations must never be lost sight of. The fact here stated may seem obvious enough, but it is one of the objects of this treatise to show how frequently it is overlooked in scientific discussions, and in the too ready and unquestioning acceptance of hypotheses framed to account for physical phenomena. This demonstration occupies several chapters of the book, and leads the author to discuss the instruments of thought, including not only logic, but trans condental geometry. The conclusion reached in this more abstru-e part of his inquiry is elsewhere stated in plain terms as follows: No valid inference respecting the real constitution of bodies and the true nature of physical action can be drawn from the verbal forms in which it is found necessary or convenient to represent or to conceive them. The truth of this affirmance is illustrated by the fact that we habitually re sort, not only in ordinary thought and speech, but also for nurnoses of scientific discussion. to modes of representing natural phonomena which are founded upon views and hypotheses long since discarded as untenable. Just as we think, for example, and speak familiarly of the motions of the sun and stars in terms of the old geocentric doctrine, although no one in our day doubts the truth of the beliocentric theory, so also the modern astronomer would find it difficult to dispense with reocentric fictions in subjecting these motions to mathematical com-

The chapter of Judge Stallo's book which will be found the most interesting by the gen-oral reader is that in which he examines the cosmological and cosmogonetic speculations reared on the atomic theory. The cosmogonies founded on the atomo-mechanical hypothesis are, of course, attempts to reduce the universe and its phenomena from the elements of mass and motion by the application of mechanical principles expressive of the simple laws of motion. Indeed, as was said above, the ultimate problem involved in the atomic theory. and to whose complete solution many modern physicists affect to look forward with a greater or less degree of confidence-though many of them are clear sighted enough to regard it as an aspiration scarcely to be realized-is the exhibition of all vital and organic phenomena as results of ordinary chemical and physical action, and the explanation of chemical and physical action in turn as exchanges and transferences of mechanical motion between constant and uniform elements of mass. No one pretends, however, that this problem has been solved, and accordingly Judge Stallo-after some general remarks intended to demonstrate that all cosmogonies purporting to be theories of the origin of the universe as an absolute whole, in the light of physical or dynamical laws, are fundamentally absurd-proceeds to a discussion of the particular cosmogenetic theory which has attained to wide acceptance under the name of the nebular hypothesis. We have never seen this theory more concisely and yet distinctly stated than in the language of this writer, who afterward sets forth at length the grounds on which he deems it inadmissible. In order to exthe nebular hypothesis. As generally held, the theory affirms that primordially the materials which are at present found, partly, at least, stellar, solar, planetary, satellitic, and meteoric systems, were uniformly formly diffused and very attenuated matter came to be divided into large nebulous spheres. which began slowly to rotate, the rotation resulting perhaps from the act of division, or irregularities in their forms, which deflected the lines of gravitation from a strictly radial direction the centres of attraction no longer coinciding with the centres of flgure. In proportion as these spheres parted with their heat they contracted; and this contraction led to an increase of their velocities of rotation in conformity to a mechanical law known as the law of the conservation of areas, or of angular momentum. This law in its most general expression is simply a corollary from the law of inertia, from which it follows that the resultant angular momentum of any material system cannot be changed, either in magnitude or the direction of its axis, by the mutual action of its constituents. For the purpose, however, of its application to a rotating nebulous mass, Judge Stallo states the law more intelligibly in another way, viz., that whatever change of volume or form may be produced in a material system by the mutual attraction of its constituent elets, the sum of all the areas described by the radii reclores of the several elements or particles round the centre of rotation in a unit of time is constant. Now, the areas being proportional to the squares of the diameters, it follows: that the angular velocity increased with great rapidity as the contraction of a nebulous mass proceeded. An immediate consequence of this increase of velocity was a proportionate increase of the centrifugal force in the equatorial regions of the rotating sphere, so that in course be applied to it, because they are determinaof time this force came to balance, and afterward to exceed, the centripetal gravitation. This led at first to a disproportionate contraction of the sphere at the poles, and the assumption by the sphere an oblately spheroidal or lenticular form, and eventually to successive detachments of equatorial rings or zones, which at first circulated round the residual mass in the direction of its original rotation, but which-by reason of the instability of such rings in case of the least departure from absolute regularity of form or constitution-ultimately broke up into

tion of this rotation coinciding with that of its of the formation of organic bodies, there ex- revolution. It thus became subject to the same isted an indefining number of elementary cells. dynamical conditions which determined the evolution of the parent system; it also throw off times, which either retained their form (as in the case of the Saturnian rings) or were cona continued not to thus too be tily from the | densed into minor satellitic bodies like our by the upholders of the mechanical theory. Some of the arguments advanced in sup-Dissent from the proposition that all physical | port of this celebrated hypothesis may also

parts forming one or more minor spheres or

spheroids. These continued to revolve around

the residual mass (which now would receive the

name of solar sphere) with a velocity nearly

equal to the rotatory velocity of their materials

at the moment of their detatehment and con-

glomeration. In most cases, probably, the

whole mass of such a ring coalesced into a

single body, i. e., into a planet, while in some

cases several bodies were formed, such as they

appear in our planetary system in the zone of

asteroids. Each of the planets while revolving

round the residual mass, whose condensation

is supposed to have produced the sun, also be-

denote of an increase of temperature from the | is, as we have said, to free scientific conclusions surface of our planer toward the interior-the proximate coincidence of the cibial and less of the sun's rotation—the similar coincidence of ance, not so much on physical as on metaphysi-the directions of the orbital motions of the sat-cal grounds. In one of his chapters he has offices with the axial motions of their planetsshown to be the form necessarily assumed by a rotating body in a liquid or semi-liquid state. These arguments, meet of which were origi-nally address! by Kant and Laplace, have sign been supplemented by a variet, of other considerations, more or less plumible, among theoretical consequences of the fact-that the projection of planetary masses from the parent ing rapidity as the contraction of the globe progressed-with certain well known-features wholly unancessful, have even been made to effect a deduction from the elements of this theory of the empyrical law respecting the distances of the several planets from the sun. The nebular hypothesis in the wide form in which it is now generally held-regarded that

is, as a theory of the origin not only of our

planetary system, but of all stellar and

verse - is commonly ascribed to Laplace,

but is really due to Kant, whose con-

from the scheme suggested by the French as-

ception differed in several essential particulars

tronomer. The latter's hypothesis was limited

In terms to our planetary system, and there is

no indication in any of the writings of the

French astronomer that he ventured to extend

it to the entire universe, as was expressly done

by Kant. Our attention is drawn, however, by

Judge Stalle to a difference still more important

Kant's assumption was that "all the materials

composing the spheres that belong to our solar

etween the hypotheses of the two thinkers.

uni

planetary systems throughout the

world were in the beginning of all things resolved into their elementary substance, and filled the whole space of the system in which these spheres now move." This assumption underlies all recent forms of the nebular hypothesis, all postulating a diffusion of the entire mass of the sun, planets, comets, and satellites constituting our planetary system throughout the planetary space. On the other hand, the assumption of Laplace was simply that "the atmosphere of the at one time extended beyond sun " the orbits of the furthest planets, and that the formation of the planets and their estellites, as well as that of the comets, was due to a gradual cooling and contraction of this atnosphere. Obviously the Laplacean form of the nebular hypothesis was far too narrow to serve the purposes of a general cosmological theory, which demands the derivation of the several concretions of cosmical matter from some primitive homogeneous mass. This demand is complied with by Kant's conception, but if we accept the latter we find ourselves in presence of a formidable difficulty, and Judge Stallo suggests that in proportion to its amplifleation to cosmogenetic dimensions, the nebular hypothesis parts with its validity as a physical theory. It was shown as be points out, by M. Babinet nearly twenty years ago, that the neual relatory velocities of the several planets are in fact vastly greater than the velocities to be deduced by the aid of the law of the conservation of areas from the nebular hypothesis, if that theory includes the assumption of a diffusion of the solar mass itself throughout a space coextensive with the limits of our planetary system. The discrepancies exhibited between the actual orbital periods of planets and the corresponding periods found by calculation in accordance with the postulates of the nebular hypothesis, are so enormous that there appears to be no possibility of accounting for them by the assumption of a progressive contrac-tion of the crisis of the second pionete since their projection, and the consequent quickening of their orbital modlens. But the gleulations of M. Babinet do not constitute the only difficulty which besets the nebular theory taking a broad and just view of complicated either in its Kentian, cosmogenetic, or in its special Lagracean form. In the presents of seeing the particular, perhaps potty, incompatthis mechanical explanation of the phenomena of nature to be not only unquestions. It may be well to reproduce the able, but absolute, exclusive, and final. They part of the passage in which the writer defines | the facts and the hypothesis fall. Thus there | be laid down, therefore, as a rule, that the misannears to be an execution to the directional | count of a campaign by a member of the miliuniformity of the axial and chiral motions of tary profession will not be on the whole imthe planets and their satellites in the case of proved by his personal experience, unless the facts and agreements do not limit and restrain conglomerated in the bodies composing the Uranus the orbital planes of whose satellites | anthor was the General in command or in are nearly perpendicular to the celiptic the active and continuous service on the general band bath been conquered and Wales hath been circumplanetary motions of the satellite, as staff. Now, we need not any how very rare it is compacted, and by this reason will be in little throughout space. In some way, by the action | well as the axial motion of the planet, more- for strategic and literary talents to be united; of cosmic (attractive and other) forces, this uni- over, being retrograde-a fact bury since discovered by Sir William Herschel and confirmed | hand the men who have been able at once to by various subsequent observations. But the plus a campaign or fight a battle, and aftermost serious blow which has been lately deaft to the nebular hypothesis consists in the recent from internal differences in their densities, and | discovery (1977) by Prof. Asaph Hall of 1910 satellites of the planet Mars and the proximate determination of their respective distances from the planet as well as of their orbital or elremoplanetary periods. It was found that the distances of the inner and onter satellites from the centre of the planet are discharged the special duty assigned to him about three and six times respectively the radius of Mars, yet it appears that one of the | judgment on the alms and methods of the

> tirely fruitle-s. Besides addinging these specific objections to constitution of the universe, Judge Staffe insists | movit of this narrative that the author tries to be as an unlimited whole. He deales that either | approxiate the grievances of which Gen. M. be legitimately applied to a universe ablutely unlimited. We cannot deal with the infinite as with a physically real thing, because definite physical reality is coextensive with action and reaction; and physical laws cannot tions of the modes of interaction between distinct finite bodies. The universe, so called, is not a distinct body, and there are no bodies without it with which it could interact. Operations with the term infinite in analogy to operations with finite terms are as illegitimate in physics as they are in mathematics. The infinite is simply the expression of the essential relativity of all material things and their properties, and is thus, in a sense, inherent in every finite form. It is in other words, the basis of all the relations which constitute sensible actuality, but it is

third of the time required for the planet to turn

itself on its own pais. The radical inconsisten-

ey of this fact with the nebular hypothesis is

underlable, and the attempts thus far needs to

not itself a group of such relations. But apart from these general considerations. relating to the limits and the laws of thought which are developed in another part of this book, Judge Stallo thinks it plain that the derivation of the forms and movements of the stellar and planetary systems from a primordial homogeneous mass, uniformly diffused throughout space ta derivation postulated in the Kantian form of the nebular hypothesis) is impossible And for this reason: In the first place, such a tion, and this state of rest or uniform motion ples, be changed only by extraneous inpulses or He is pronounced distinctly in the wrong in attractions. But, there being no "without" to the all-embracing cosmosor chaos, the original state | lack of cooperation or to treacherous conduct of rest or uniform motion would necessarily be perpetual. In the second place, such a relation of the Perter contra-ulous universe would be of perfectly uniform versy. Mr. Ropes is of ourseau that on Ang. 23. conperature; all parts would be equally hot or | 1562 that toward tried as hard to do his duty old, and there could be no radiation or loss of as any either; in the army. As to Gen. Me

attributing his ill success in the field to the

from the intrusion of metaphysical assumptions, is happily illustrated by his explanation | ed in order to effect what Gen. McClellan ac the several planets, both in direction and plane, of the favor with which the nebular hypothesis | complished with the army at Abtletan was the and the further proximate coincidence of this has been received. He thinks that this theory confidence of his officers and men. "It roust orbital motion with the direction and plane of found ready and almost enthusiastic accepts be confessed," says Mr. Ropes, "that he did not essayed to show that the prononces to derive the multiple from the absolutely simple, the various from the absolutely uniform, ban its root in an old fallacy, viz., the assumption that the abstract result of a conoralization, i.e. a general concept, may be made available as a starting subsumed under it. The enthusiasm for the pobular hypothesis was, in this respect, an ontoa revisal of ancient traditions about the origin of the universe from Nothing. As to this latter point, we are reminded that the original sphere-evolving mist of the nebular hypothesis is assumed to be of extreme tenuityof a density, indeed, less than the one hundred thousandth part of hydrogen,

of our own planetary system. Attempts, not the lightest gaseous body known to the chemist, By reason of this ethereal subtilty it was readily substituted, in the con ceptions of the popular mind, for the old void from which the world was said to have emerged, and satisfied at the same time the mystic yearning after the ethereal and spiritualistic which is the special distinction of the large class of philosophers whose philosophy begins where clear thinking ends. We have directed special attention to the author's examination of the nebular hypothesis, because the subject is more intelligible

and interesting to the general reader than would be the discussion of the other theories, physical or chemical, in which the writer seeks to detect and eliminate the infusion of metaphysical error. Yet such is the lucidity the author's style, and so studious is he to avoid technical terminology, his chapter on the relation of thoughts to things may be read with profit by those who know nething of formal logic, while even his chapter on transcendental geometry may at least be understood by those whose knowledge of the higher mathematics has gone no further than an acquaintance with the first books of Ruciid. And of course such transparent clearness of diction-which will insure to this book an audience far wider than awaits most scientific treatises-is the result and the roucher of a corresponding clearness of thought. M. W. H.

The Army Under Pope.

By far the best executed volume in the series entitled "Campaigns of the Civil War." now publishing by the Scribners, is the account written by Mr. JOHN C. ROPES of the operations of the Army of Northern Virginia during the summer of 1862. In this painstaking, lucid, and trustworthy narrative we have probably the closest approximation to the final judgment of history that can at this date be looked for. The reader who follows this impartial and exhaustive record of authenticated facts, and who weighs the sober and deliberate conclusions based upon it, will recognize that here for the first time one of the most interesting and important eampaigns of the late war is fully and accurately interpreted. It was quite needless for Mr. Ropes to utter

one word of apology for the presumption which some foolish persons may imagine to be involved in the attempt of a civilian to describe and appreciate military operations. Our materials for the study of ancient or modern wars would be scanty indeed if we were forced to rely on reports transmitted by professional soldiers who themselves witnessed or took part in the events recounted. In the first place, a little reflection will demonstrate that only the Commander-in-Chief or a member of the general staff is in a position to understand the strategic movements made in a campaign, or the tactics adopted in a battle. An offleer whose sole business is to receive orders, and to see that they are executed by a given body of troopsthe Colonel of a regiment, for instance, or a General of brigade-cannot possibly know anything except by rumor of any movement other than that in which he is personally engaged. Instead he is to some extent disqualified for indeed, we might reckon on the fingers of one ward to describe it in an accurate, intelligible, and effective manner. So far from admitting that an apology is called for from the civilian on they be inclined to say that the history of the war of the rebellion will never be written until publishers and public outgrow the silly notion that every Celonel and Brigadier-General who with exellit is ipso facto qualified to pronounce satellites revolves about Mars in less than one . General commanding, and undertake the complicated functions, at once judicial and literary,

of the historian. Mr. Ropes set himself an embarrassing and somewhat invidious task when he essayed toreconcile the anomaly have referred to with the | de-ribs and comment on the unlocky operaessential postulates of the theory have been out it itons of which the second buttle of Manassus and the battle of Chantilly were the melancholy outcome. It has hitherto seemed impossible for the nebular hypothesis in its widest form, re-gardedns a physical theory of the formation and Gen. McClellan and to Gen. Pope. It is the capital on the fundamental inadmissibility of all space | just to both Generals, thought in his preliminary ulations respecting the origin of the universe | charder he falls, in our opinion, to adequate by the law of the conservation of energy or that of Clellan had good reason to complain in his its dissipation, irresusable as may be their penthsular campaign. On the other hand, in the application to any finite, material system can chapters entitled "Halbeck and McClelian" and "Final Reflections," the author may be said to have empletely refuted the unjust aspersional of M. Clollan, once current in oc tala quartertouching his alleged unwillingness to render Pope due support, Mr. Ropes's conclusion is that throughout the operations preceding Pope's defeat at Bull Run, Gen. McClellan "had clear ideas of his own, and there was much to be said for them, too, while the General-in-Chief (Halleck) was weak and vacillating." Halleck says the author elsewhere, was "not a practical soldier at any time, and his lack of vigor and decision, as well as of sound military sense, gravely imperilled the fate of this campaign. Again, speaking of the particular facts sometimes adduced as evidence of readssness against McClelian, the writer thus sums no his judgment: "The fact is that Halleck was in doubt what to do with Franklin for some time. For the delay of his corps and Sumner's in and about Alexandria Halleck was in the main responsible," Mr. Ropes thinks, however, that too much has been made of the matter. Pope's army," we are told, "was perfectly well able to take care of itself." If it found itself outnumbered, Halleck had a right to supp it would retire on Washington. As a matter of fact it was not outnumbered, and "Pope did not begin the battle of Buil Run relying on Franklin, as Wenington did on Bhieber." Pone mass must be either at rest or in uniform mo- | was the attaching party, and he lost the battle could, according to the most elementary principle acute he entirely misconscious the situation

age, persistency, confidence in himself." Else where the writer explains that what Pope needseem to understand here to pequire this, His original address to his army was in very bad toste. He was a Western man appointed to command in the Fast, and instead of kitting his notions speak for thoms lyes, he began by contrasting the Western with the Eastern armioto the disadvantage of the latter. Then his general orders and many of his despatches their tone. Much of this doubtless, would have worn off in time, but the time was not allowed

It will we think be apparent from a conscentive rending of the book. If not from these brief extracts, that Mr. Ropes's narrative satis des the conditions of a judicial inquiry, exhib-Iting industry and sagacity in the collecting, stiting, and weighing of evidence, and no common powers of judgment in deducing conclusions from the facts. Nor will any one fail to be impressed by the literary treatment of the subject, and especially by the writer's clear, accurate, and terse diction. He uses the right words, and the simplest words, and he is eareful not to use too many. If in this respect and in the others noted the merits of this volume could be reproduced in forthcoming members of the series, we should see reason to congratulate both publishers and readers,
M. W. H.

Parliamentary Anecdotes.

The latest addition to Cassell's Popular Li brary is a compilation of anecdotes by Mr. HENRY LATCHFORD, called The Wit and Wisdom of Parliament (Cassell, Petter, Gainin & Co.), This readable little book is to be fellowed, we are told, by others dealing with analogous topies, and respectively devoted to "Notable Irish men," to "Notable Scotchmen," and to the and Wisdom of the Bench and Bar." If the other collections of anecdotical matter are as well made as is that now under review, they will prove valuable contributions to entertain ing literature. Mr. Latchford has not merely thrown together a lot of stories without referones to chronological order or similarity of subjeet, but he has tried to introduce a kind of classification which should give the elever sayings and interesting incidents abounding in English Parliamentary history a thread of continuity and suggest relationships with certain definite principles of political life and action. How well the author understands the general trend and significance of English political history will be evident from his torse statement that under the Plantagenet dynasty the governing powers were ranked, in the order of their importance, as Lords, Sovereign, and Commons. Under the Tudors there was a change in the relative weight of political factors, and the order was that of Sovereign, Lords, and Commons, while

from the great rebellion to the present time the order has been preserved, with slight intermission, of Commons, Lords, and Sovereign. There was plenty of wisdom in the Parliaments of Charles L. and it is true enough that the recorded debates of that period contain some of the finest specimens of parliamentary eloquence to be found in any language. We can see, for instance, that the principles of selfgovernment had quietly made great progress when Henry Marten could say one evening to Clarendon (then Mr. Hyde): "I do not think

that any one man is wise enough to govern us all." This says Clarendon was the first word he had ever heard speken to that purpose, "and would, without doubt, if it had then been communicated or attempted, have been the most abhorred by the whole nation of any design that could be mentioned," Mr. ford goes on to quote some remarkable pas-sages from the speeches of Sir John Eliot, which, both in substance and expression, may still serve as models of parliamentary invective. A still more interesting extract is made however, from Pym's speech on the impeachment of Lord Strafford. Undertaking to defend his conduct in Iroland the latter had said that it was a "conquered country," and that his illegal exertions there were to maintain the King's absolute sourceignty. To this Pym repiled in terms which English Liberals at this day might do well to keep in mind: "They were a conquered nation! There cannot be a word that have not been conquered, and no doubt the conqueror can give what law he that right what people can be seened Fig. better case than Ireland. If a king, by the right of a conqueror, gives laws to a people shall not the people by the same reason be restored to the right of the conquered, to recover their liberty if they can?" It was Land, another of the instruments used by Charles L. for the establishment of his theory of right divine who provoked Lord Felkland to make his celebrated attack upon "fille Bishops," in which he used the following Illustration: "Master Speaker, we shall find them to have been like the hen in Esop, which, laying every day an em upon such a proportion of barley, her mistress, increasing the proportion in hopes that she would increase her ears, she grew so fat upon the addition that she never laid more so, though at first their preaching were the perision of their profession, they afterward made their preferment the occasion of their not

prenching." It was, it seems, a member of the Long Parliament who moved that such secondalous membereas slept and minded not the business of the House should be put out, whereupon Harry Marten, who was wont to sleep much in the House, starts up: "Mr. Speaker, a motion has been made to turn out the nodders, I desire the molders may also be turned out," Another story is also told of Marten, who was in the House of Commons when David Jenkins, a Welsh Judge, was brought before its bar to answer a charge of buying cond-mucd to death certain persons who had taken up arms against the King. The old Judge refused to kneel at the bar of the House, saying: "Since, Mr. Speaker, you and this House have remaraced all door and allegiance to Your soveregn and natural liege lord the King, and are become a deu of thieves should I bow myself in the house of Rhumon? The Land would not forcive me this thing," The House broke out in tunnit, and it seems likely to fare harsley with the old royalist; in fact, Jonkins was condemned to death for high trea-on. Suddenly Harry Marten interpo-Mr. Speaker, every one must believe that this old gentleman here is fully possessed in his head with the notion that he will die a martyr to his cause, for otherwise he never would have provoked the House by such biting expressions; whereby it is apparent that if you exe cute him you do what he hopes for and destres. and his execution might have a great influence upon the people, since he is not condemned by a jury. Wherefore my motion is that this House should suspend the day of execution, and in the mean time force him to live in spite of his teeth." The House, appeared by the humor of the motion, accepted the suggestion. and Jonkins was sent to Newgate.

A clever saving is attributed to a poor speak.

er. Lord Ashley. Addressing the House upon a bill providing prisoners in cases of high treating the local and strong but it is not because of a bill providing prisoners in cases of high treating the first and a poor a bill providing prisoners in cases of high treating the first and a poor and a broad prisoner and a poor a poor and a poor a poor a poor a poor and a poor a p The House, giving him a little time to recover his confusion, called Lordly upon him to go o when, nexting himself for a fresh offer, he thus presented: If, in I, who ties only to give my opinion upon the bill new depending, ain as confounded that I am unable to expre the bast of what I propose to say, what must the condition of that man be who, without may on the part of Porter Criffin, and McChillan, is status. Is providing for this informed under make the cut-of-being depths of our fill. As may found on each base to the period or eding fill in our of the state one the widents and a section of this the loss the widents and a section of a filling Purific dition would be constant, for the same reason which establishes the constancy of its general hand by the nather of this narrative, that F pe well and a little back which as a vigorous active, resolute man. He had The control aim of Judge Stalle's book, which is navy of the pecuniarly military virtues, courselves.

POEMS WORTH READING.

Crewel Work.

She tanulit me to appreciate The Konstbation wrangh And nice to discriminate

On mortions or impol,

And promise nevermore to mee A samilewer made of thinnel. I sought the origin of each

Ecriesiastic symbol, And insted in postic speech Her meetie, throad, and talable; But now also, she turns from me, By mature mosts subterie

To remething more ambetic I wence of this love belond youth The latest art forention, Adorned with his binds, foreouth,

Or herring boned with yellow, He still is tacking, in a way, Invertebrated follow:

He revels in eccentric dress, On table scarf and tidy, And claims my fair embroideress From Saturday till Friday. How can a maid with countless charms, Herself so plump and comely, Admire such inefficient arms.

And face that simpers dumbly If I must worship at the shrine

And languish till I grow supine, To do my lady duty, Pain would I queuch, in self-defence, A flame that needs such fuel, And utter, ere I grow intense
" Oh, this is too, too crue!!"

> Senex and His Friend. (About the period of a new year.)

From Harper's Weekly. Vour hair is scant, my friend, and mine is scanter. On heads znowed white by Time, the diseachanter In place of Jayous heams and jovial twinkles. Behold, old boy, our faces scored with wrinkles!

Sparkles your legal lore with salt that's Attle! But all those twinger spout: those panes rhen with more of mine to more the public quarras, But, Lord' how cod I feel despite the laurels!

If spiced your fame, not so your milk or sage, Only mild diet sailts a sharp jumbage, While he for mer-whaterill; pull avails one Whose own short breath (astionatic); almost fails one? The world we desired so rife with fadeless prizes, Which of us meet its believe show despises? We dyield our gains for just one marvellous minute of our lest youth, with all youth's glory in it!

Yet from this House of Life, now wrapped in twilight, Glesnos 'mid the shadowy roof Faith's magic sky sofit; Whereby, as hight steals down through weird gradation We had the glow of heavenly constellations.

So, as through darkness only down the graces Of God's calin stars and lofty shining spaces. That night called death which shrouds our bodies breath-May flood the heaven of soul with peace that's deathless. PAUL HAMILTON HAVEN

Master Jack's Song Written by him after spending the holidays at Grands

From the Fouths' Companion.

You may talk about your groves, Where you wander with your loves; You may talk about your moonlift waves that fall and flow; Something fairer far than these, I can show you if you please; 'Its the charming little cupheard where the jam yots grow. enonus.

Where the jam pots grow,
Where the jam pets grow,
Where the july jolly jelly jolly jam pots grow!
The fine dearest spot to the
On the land or on the sea;
is the chartning little cupboard where the Jam pots grow

There the golden peaches shine, In such syrap clear and time. And the random the are blocking with a dusky glow; And the cherry and the planing Seem to booken me to come. To the charming little cupnoard where the jam puts grow

There the surjective pickles stand, With the current close at heart; And the interminated and is block in a goodly row; And the quires of pickle like in a goodly row; Would an inchority blocker to seek the little cupiesari where the jam pots grow.

Never tell me of your howers are and flowers! sing me, if you will, he house betermin the hill, this darring little employed where the jain puts from

Chours.

Where the last just year, year, Where the last just year, felly fully jaco pots grow! The the decrees spot to me On the hand of oil the sea; Is the charming little cupleard where the jam pets grow LACRA E. RICHARDS.
[Oh! what a treeds log l]

From the Buston Periodriph He wins at hist, who builds life trust. In social words and actions just. The winter blast is viera ned cold, Yet stainings has a line energial. Serrow and closen the soul may weet, Yet love winners mough from defeat. The clouds may decked o'er the san, Yet rivers to the result rad. Furth before the litterness of paint. Yet worth the property of paints of highest The wind may reer music the trees, Yet great shops sail the sloppy seas. Fail of we feel the surge of tears. Yet pay the again for all the years. Onevery beanes the on bright, "For four and truth, and free we fight."

The Romanut of the Rose. Picon Lombon Stickety.

THURS S. COLUMN

Poor Rose! I lift you from the street-bar heter I should awayou. Than you should be for the load feet. Where carely a hands in a thrown you.

Poor plaks petals, crawfed and torn: Del hear less Mayfair use year. Then east you forth to lie farforn. For charlet wheels to broke you?

I saw you last in Edith's hair.
Kook you would share discover Was Edith's Eavored lover.

A month a linde ments, and— Theme for a moral well of Twist you not me, our Head, red linew, She might have been policy.

But let that pace. She save you then

Theme, but have, of all the men Who nest could unserstand her;

Cyril, who duty flattered took, With fast the same keen but book. He used has night for Mater;

Then having waltred till overy star And to-sed you downward scorning

Knower, my Rose? Recourse instruct; Strainfe for he are although quiver. And yet you should be in the struct; The grop you in the river.

What is That !

From Puck: What is that mother, that comes from the urn Fragrent and street, in we so it in a single "An included in the same from the visiting".

Leaves of the aider field indicated, if the tag of the nide and the field in a constitution of the field in the same and the field in the same so of the tag.

And I think that the three may be some leaves of the tag.

"What i that, mother, so colds blue, lake a white sky of game that " that is much of the city, that mixture, my dear. The multi-of the chartle put and player the its coar. That would not be extend by a consider ray. For the never cond make it, she wouldn't know not

What is that mother, voll of as gold?" Entret, in a back that the better at our.
Lathe hay day of youth we seed it for int.
Twas a propher; which we seed butter for 'fat.'
That is butter, or these vertical the confer calls green
To the cheef, it is sulvantanting. "What is this mother" " To the popper of trade.

Luxers who Are Not Happy.

From the Parists For all that we have said, swear, And all blat well strained and a said. The fact of the f

We know that the another has been The four orders been we will be for the Boundary been Burn as a boundary been as a boundary b

To marrie with the branch base.

And resemble to the proof.

And resemble the first state of the state of the

And now when do not being dear, This great law, at the end; A some not me to one, dear, and days for you to spend. PARTY BOURKE MARAGON. FUNERAL OF A CHINESE EMPRESS. A Pazzitag Oriental Pageant. The Burial of the Widow of a Brother of the Sm

Lyon the San Francisca Chemilde. THE MAJESTY TEXT AN Invine 6 world ? the Dierret died, Ts. An of the line kin. trees Rev. A sin continued ity of the preone Tong Chil power size excepted with con-On more from exacions, how-ing the result indrugito with its matter talent, your used, to give perial quarters designated as the La acc, she became known as the Last or in contraction for ton to here or reach ing in the Wespern Palace, is known as

ing in the Wespern Palace, is known as the Wespern Entiress.

The anspirious day selected for the imperial obsequies by the grave scientists who form the Board of Astronomy at the Chinese empital was the 29th of October last.

Ever since the Empress died, her remains had been deposited in a mortanty charely indicated in the engineering surrounding the coal miller May Shan, in the grounds of the palace. This hill was constructed in the year 1635, and the coal of which it is composed was brought from the mines of Carang, which lie to the westward of Pekin. At its summit a beautiful senser house is built, and its slopes are decorated with trees and shrubs of various descriptions. In its construction is serves a double purpose—to encounterion it serves a double purpose—to encounterion it serves a double purpose—to entrees and shrubs of various descriptions. In its construction it serves a double purpose—to enable the imperial denizone of the place to obtain a view of the city, and also us a magnitud of fuel in case Pixin should at any time be in a state of stege. For seven months the body of the Empress reposed on this fill. Livry day delegations of high mandarins visited the shrine to offer sacrifices and prayers, while a legion of Bouldhist lamas and Tourist priests lived in little huts around the gardens whose duty it was to offer prayers for the recess of the soul of her Majesty. The Kwan Teh Tou, for such is the name of the mortuary shapel, was sacredly guarded from common ken by a matshed creetion. The King of Corea, the Khan and Sultans of Thibet, Turkestan, and Kashagaria, the chiofs and princes of the Moordian and Sultans of Thibet, Turkessian the hospitality of the choice and princes of the Mooraian and Manchurian domains, all sont depositions to offer prayers on their account at the chrise, Two weeks previous to the date fleed for the funeral the roads leading to the innertial torats. -which are styled lung ngan tien tit tabiding resting half of the Dragon)-were under a pro-

Two weeks previous to the date flood for the funeral the roads leading to the imperial busins—which are styled lang ngan lead it obtding resting half of the Dragon)—were under a process of renovation.

To imagine a street in Pekin is difficult. A thoroughfare in the Chinose capital cannot be equalled for dirt in any other city in the world. Pekin is a city of magnificent distances: but the roadways, though broad and leng, are vite. The heavy dust of the plain accumulates and is kept from rising by liberal showers of dirty water, which is fadled in buckets by seaveners from holes in the sidewalks. The method adopted to patch up the roadways consists in raking the mud from the sides to the middle and levelling it down with trowels. After the roadway was repaired traffic on the portion renovated was entirely suspended. As it is an essential feature in a Chinose imperial funeral that the coffin must be carried steadily and without the least swaping, for some twenty days previous to the obsequies the mon who were destined to bear the corrise were drilled under the eye of officials to profesener. Two immense beams, painted yoliew, supported a lofty canopy and stand, where the coffin was to rest. Upon this stand the preciding official was seaded holding a cup of water in his hands. The desired point was achieved when the bear are could step together and not spill a dree.

On the appointed morning, at early dawn, be procession left the palace and proceeded on its way through the Hou Men, or back gate. The catafalque was cerried from the shrine to outside the gate by 128 bearers. In a yellow canyastent, situated on the plateau outside the city, the coffin was deposited by the bearer, there to await the arrival of the boy Emperor and the Western Empress. There were some ten thousand soldiers of the imperial correst was arrested and severely punished. The major is paying the passage of the procession along the street the eads of the himses abouting on the main there our procession then moved in the following order: First

princes on homolous, attendants of an sor didictor it excess lings of with the drag on contrained upon them, carrying large red underline, peared the penderous catafactwenty mandarins on foot in front hage been was draged in yellow schape retenabled an ordinary stage among extended with silk upon with was embradiered in gold thread, the possel. The roof of the catafact was embradiered in gold thread, the possel. The roof of the catafact in the first of the catafact in the catafa grilt. Land of carry, seehan chairs bearing calcia monriers. It has Kungr and the Hang Chang, a blowed at the distriction of the real side during the passing The pourier of the touch a design of the way see The following on the way see The distriction of the way see The distriction of the way see The following of the way see The following the cortison resting on the way see The following the cortison resting on the way see The following the cortison resting on the way see the cortison resting on the way see that the cortison resting on the way see that the cortison resting the cortison resting to the cortison resting to

The following programme of a performed at the grave appears it in Chinese page or published in Shan m £ 40. converse burns to a the activate of the court scheme. At the four at the sate points and the sate of the court will be described in a the fraction heave and the yearst. The court of the c From the Chinese book of errors nionies attending the sepalture of a

the imperial family: The could be provided to the bearse at his sign as a service representation of the bearse at his sign as a service representation of the bearse at the service translation of the bearse of the service the service that are a service to the service the service

As he Appeared at the Late Meeting of Rail road Men in Buston. Firm the Old stalogy Means

Imagine a mile of a man, haken to appropriate weighing tint! shaken is after a tree, we lighting 100 pounds, with the particularly mession, and in fact, with hard tion of any kinel of lower or for showing. Provided to the standard line is said of him, if and another New York or stalled, that they hung between them, Mr. Gould New York and New England mechis seat a nor a rent action nation. Now York and New England meet his scat up in a to hi series, near the scatter, near the scatter, near the scatter is the scatter of the and rest it were the rail of the and he entered to to the proceeding as a stanted himself scatter as so far as position interest in the everyings are oning the realized be was thus primaring the realized be was thus primaring anybourded by his direction, he either hand accommal tursiness we speeches were in order or a contract of the worked himself into a standard behavior of the worked himself into a standard behavior and the himself in a chief presum he makinghed at as in shoot there were also as and him was an exagging the lamper. We did speak his surface was have taking and still simpering his taking and still supporting his with no laking quality and to sympacial to a wireing feature. Any day of all the callon wave. In the law of all to themselves the callon of the still of th positive to the transfer to th psouth the first ball, appeared the second s